

# Cisco CallManager 4.0-PBX Interoperability: Avaya Definity G3 MV1.3 PBX to a Cisco 6608 Gateway using E1 QSIG with MGCP

## Introduction

This is an application note for connectivity of Lucent/Avaya Definity G3si MV1.3 PBX with Cisco CallManager Release 4.0 using Cisco 6608-E1 QSIG as MGCP gateway. Connectivity is achieved by using the PRI ISO QSIG 1 protocol type on the MGCP gateway and QSIG protocol (with option "b" for Supplementary Service Protocol) on the Lucent/Avaya PBX.

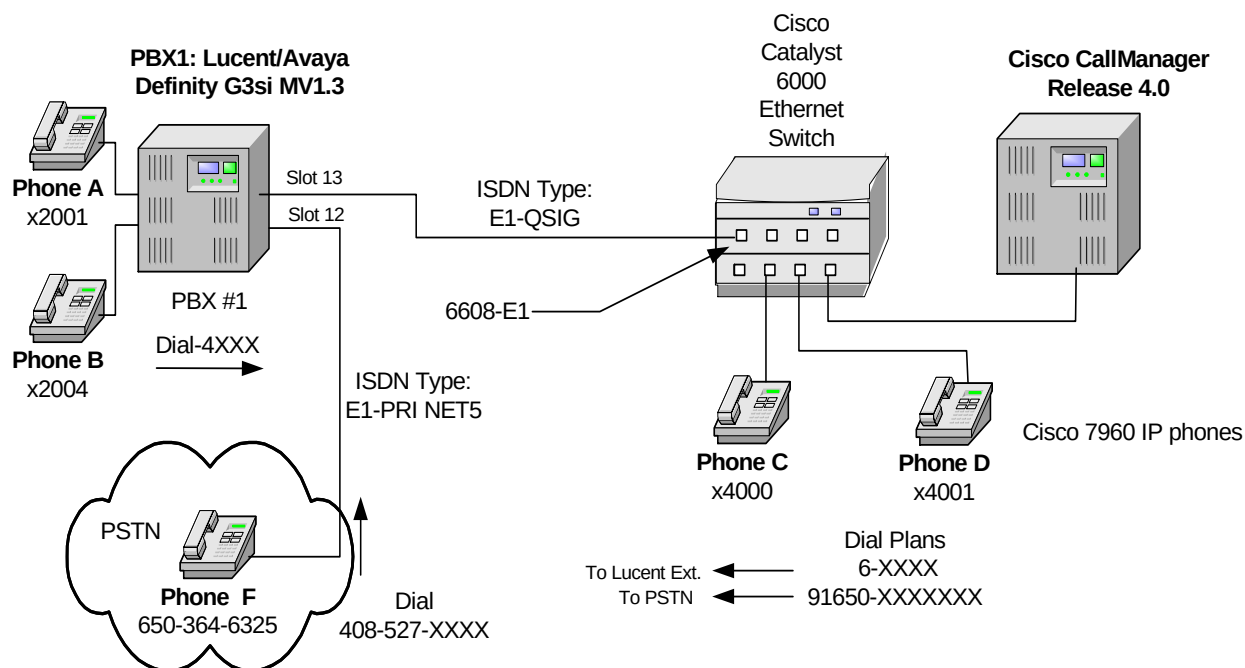
This release supports the following features:

- Calling Name Identification Presentation
- Calling Number Identification Presentation
- Connected Name Identification Presentation
- Connected Number Identification Presentation

## Network Topology

The following diagram shows the test setup for end-to-end interoperability with the Cisco CallManager connected to the PBX via 6608-E1 QSIG link as MGCP gateway.

### Basic Call Setup End-to-End Configuration





## Limitations

Cisco CallManager Release 4.0 does not support sending Alerting Name or Busy Name Identification information.

## System Components

### Hardware Requirements

Cisco Catalyst 6000 switch with 6608-E1 gateway

Lucent/Avaya Definity G3si MV1.3 PBX, TN464F, DS1 INTFC 24/32

### Software Requirements

PBX Software Release MV1.3

Cisco CallManager Release 4.0

## Configuration

### Configuring the Lucent/Avaya Definity G3si MV1.3 PBX

Configure in the following sequence:

1. Add the new circuit pack.
2. Add the new signaling group.
3. Add the new trunk group.
4. Add the Uniform Dialing Plan.



## DS1 Circuit Pack

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change ds1 a13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1

**DS1 CIRCUIT PACK**

|                       |          |                               |            |
|-----------------------|----------|-------------------------------|------------|
| Location:             | 01A13    | Name:                         | U11 to U9  |
| Bit Rate:             | 2.048    | Line Coding:                  | hdb3       |
| Signaling Mode:       | isdn-pri | Interface:                    | peer-slave |
| Connect:              | pbx      | Peer Protocol:                | Q-SIG      |
| TN-C7 Long Timers?    | n        | Side:                         | b          |
| Interworking Message: | PROGress | CRC?                          | y          |
| Interface Companding: | alaw     | Channel Numbering:            | sequential |
| Idle Code:            | 11111111 | DCP/Analog Bearer Capability: | 3.1kHz     |
| Slip Detection?       | n        | Near-end CSU Type:            | other      |

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## Signaling Group

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change signaling-group 13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

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**SIGNALING GROUP**

Group Number: 13 Group Type: isdn-pri

Associated Signaling? ☒ Max number of NCA TSC: 5

Primary D-Channel: 01A1316 Max number of CA TSC: 23

Trunk Group for Channel Selection: 13 Trunk Group for NCA TSC: 13

Supplementary Service Protocol: b X-Mobility/Wireless Type: NONE

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## Trunk Group



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change trunk-group 13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

TRUNK GROUP

Group Number: 13 Group Type: isdn CDR Reports: y

Group Name: QSIG TIE to U9 CDR: 1 TN: 1 TAC: 613

Direction: two-way Outgoing Display? y Carrier Medium: PRI/BRI

Dial Access? y Busy Threshold: 99 Night Service:

Queue Length: 0

Service Type: tie Auth Code? n TestCall ITC: rest

Far End Test Line No:

TestCall BCC: 4

TRUNK PARAMETERS

Codeset to Send Display: 0 Codeset to Send National IEs: 6

Max Message Size to Send: 260 Charge Advice: during-on-request

Supplementary Service Protocol: b Digit Handling (in/out): enbloc/enbloc

Trunk Hunt: ascend QSIG Value-Added? y

Digital Loss Group: 13

Calling Number - Delete: Insert: Numbering Format: lev0-pvt

Bit Rate: 1200 Synchronization: async Duplex: full

Disconnect Supervision - In? y Out? y

Answer Supervision Timeout: 0

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change trunk-group 13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

**TRUNK FEATURES**

|                                  |                                           |                                                  |                                               |                                    |                                |
|----------------------------------|-------------------------------------------|--------------------------------------------------|-----------------------------------------------|------------------------------------|--------------------------------|
| ACA Assignment?                  | <input type="text" value="n"/>            | Measured:                                        | <input type="text" value="none"/>             | Wideband Support?                  | <input type="text" value="n"/> |
|                                  |                                           | Internal Alert?                                  | <input type="text" value="n"/>                | Maintenance Tests?                 | <input type="text" value="y"/> |
|                                  |                                           | Data Restriction?                                | <input type="text" value="n"/>                | NCA-TSC Trunk Member:              | <input type="text" value="1"/> |
|                                  |                                           | Send Name:                                       | <input type="text" value="y"/>                | Send Calling Number:               | <input type="text" value="y"/> |
| Used for DCS?                    | <input type="text" value="n"/>            | Hop Dgt?                                         | <input type="text" value="y"/>                |                                    |                                |
| Suppress # Outpulsing?           | <input type="text" value="n"/>            | Numbering Format:                                | <input type="text" value="private"/>          |                                    |                                |
| Outgoing Channel ID Encoding:    | <input type="text" value="preferred"/>    | UUI IE Treatment:                                | <input type="text" value="service-provider"/> |                                    |                                |
| Charge Conversion:               | <input type="text" value="1"/>            |                                                  |                                               | Replace Restricted Numbers?        | <input type="text" value="y"/> |
| Decimal Point:                   | <input type="text" value="none"/>         |                                                  |                                               | Replace Unavailable Numbers?       | <input type="text" value="n"/> |
| Currency Symbol:                 | <input type="text" value=""/>             |                                                  |                                               | Send Called/Busy/Connected Number: | <input type="text" value="y"/> |
| Charge Type:                     | <input type="text" value="units"/>        |                                                  |                                               |                                    |                                |
| Send UUI IE?                     | <input type="text" value="n"/>            |                                                  |                                               |                                    |                                |
| Send UCID?                       | <input type="text" value="n"/>            |                                                  |                                               |                                    |                                |
| Send Codeset 6/7 LAI IE?         | <input type="text" value="y"/>            |                                                  |                                               | Ds1 Echo Cancellation?             | <input type="text" value="n"/> |
| Path Replacement with Retention? | <input type="text" value="n"/>            |                                                  |                                               |                                    |                                |
| Path Replacement Method:         | <input type="text" value="better-route"/> |                                                  |                                               |                                    |                                |
| SBS?                             | <input type="text" value="n"/>            | Network (Japan) Needs Connect Before Disconnect? | <input type="text" value="n"/>                |                                    |                                |

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change trunk-group 13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

**TRUNK GROUP**  
Administered Members (min/max): 1/30  
Total Administered Members: 30

**GROUP MEMBER ASSIGNMENTS**

|     | Port    | Code  | Sfx | Name | Night | Sig Grp |
|-----|---------|-------|-----|------|-------|---------|
| 1:  | 01A1301 | TN464 | F   |      |       | 13      |
| 2:  | 01A1302 | TN464 | F   |      |       | 13      |
| 3:  | 01A1303 | TN464 | F   |      |       | 13      |
| 4:  | 01A1304 | TN464 | F   |      |       | 13      |
| 5:  | 01A1305 | TN464 | F   |      |       | 13      |
| 6:  | 01A1306 | TN464 | F   |      |       | 13      |
| 7:  | 01A1307 | TN464 | F   |      |       | 13      |
| 8:  | 01A1308 | TN464 | F   |      |       | 13      |
| 9:  | 01A1309 | TN464 | F   |      |       | 13      |
| 10: | 01A1310 | TN464 | F   |      |       | 13      |
| 11: | 01A1311 | TN464 | F   |      |       | 13      |
| 12: | 01A1312 | TN464 | F   |      |       | 13      |
| 13: | 01A1313 | TN464 | F   |      |       | 13      |
| 14: | 01A1314 | TN464 | F   |      |       | 13      |
| 15: | 01A1315 | TN464 | F   |      |       | 13      |

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change trunk-group 13 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

**TRUNK GROUP**  
Administered Members (min/max): 1/30  
Total Administered Members: 30

**GROUP MEMBER ASSIGNMENTS**

|     | Port    | Code  | Sfx | Name | Night | Sig Grp |
|-----|---------|-------|-----|------|-------|---------|
| 16: | 01A1317 | TN464 | F   |      |       | 13      |
| 17: | 01A1318 | TN464 | F   |      |       | 13      |
| 18: | 01A1319 | TN464 | F   |      |       | 13      |
| 19: | 01A1320 | TN464 | F   |      |       | 13      |
| 20: | 01A1321 | TN464 | F   |      |       | 13      |
| 21: | 01A1322 | TN464 | F   |      |       | 13      |
| 22: | 01A1323 | TN464 | F   |      |       | 13      |
| 23: | 01A1324 | TN464 | F   |      |       | 13      |
| 24: | 01A1325 | TN464 | F   |      |       | 13      |
| 25: | 01A1326 | TN464 | F   |      |       | 13      |
| 26: | 01A1327 | TN464 | F   |      |       | 13      |
| 27: | 01A1328 | TN464 | F   |      |       | 13      |
| 28: | 01A1329 | TN464 | F   |      |       | 13      |
| 29: | 01A1330 | TN464 | F   |      |       | 13      |
| 30: | 01A1331 | TN464 | F   |      |       | 13      |

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## Uniform Dialing Plan

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change dialplan analysis send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

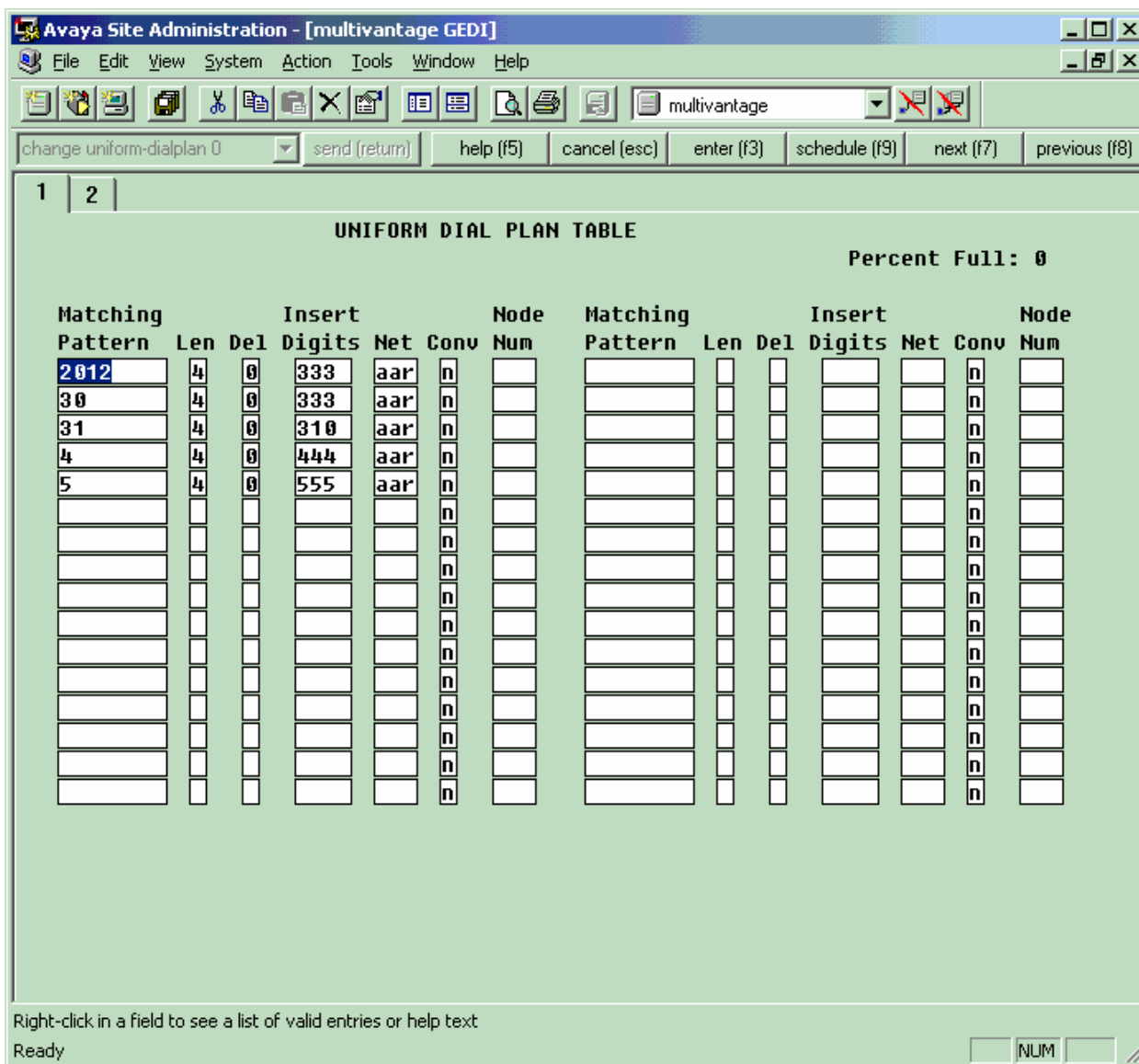
1 2 3

**DIAL PLAN ANALYSIS TABLE** Percent Full: 7

| Dialed String | Total Length | Call Type | Dialed String | Total Length | Call Type | Dialed String | Total Length | Call Type |
|---------------|--------------|-----------|---------------|--------------|-----------|---------------|--------------|-----------|
| 0             | 1            | attd      |               |              |           |               |              |           |
| 16            | 4            | ext       |               |              |           |               |              |           |
| 20            | 4            | ext       |               |              |           |               |              |           |
| 3             | 4            | ext       |               |              |           |               |              |           |
| 4             | 4            | ext       |               |              |           |               |              |           |
| 5             | 4            | ext       |               |              |           |               |              |           |
| 6             | 3            | dac       |               |              |           |               |              |           |
| 8             | 1            | fac       |               |              |           |               |              |           |
| 9             | 1            | fac       |               |              |           |               |              |           |
| *             | 3            | fac       |               |              |           |               |              |           |
|               |              |           |               |              |           |               |              |           |
|               |              |           |               |              |           |               |              |           |
|               |              |           |               |              |           |               |              |           |
|               |              |           |               |              |           |               |              |           |
|               |              |           |               |              |           |               |              |           |

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multivantage

change aar analysis 1 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2

**AAR DIGIT ANALYSIS TABLE**

Percent Full: 7

| Dialed String | Total |     | Route Pattern | Call Type | Node Num | ANI Req'd |
|---------------|-------|-----|---------------|-----------|----------|-----------|
|               | Min   | Max |               |           |          |           |
| 111           | 7     | 7   | 111           | aar       |          | n         |
| 2             | 7     | 7   | 254           | aar       |          | n         |
| 214           | 4     | 10  | 12            | aar       |          | n         |
| 223           | 7     | 7   | 12            | aar       |          | n         |
| 3             | 7     | 7   | 254           | aar       |          | n         |
| 310           | 7     | 7   | 15            | aar       |          | n         |
| 333           | 7     | 7   | 14            | aar       |          | n         |
| 444           | 7     | 7   | 104           | lev0      | 2        | n         |
| 5             | 7     | 7   | 254           | aar       |          | n         |
| 555           | 7     | 7   | 105           | lev0      | 3        | n         |
| 6             | 7     | 7   | 254           | aar       |          | n         |
| 608           | 7     | 7   | 8             | aar       |          | n         |
| 609           | 7     | 7   | 9             | aar       |          | n         |
| 611           | 7     | 7   | 11            | aar       |          | n         |
| 612           | 7     | 7   | 13            | aar       |          | n         |

Right-click in a field to see a list of valid entries or help text

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Avaya Site Administration - [multivantage GEDI]

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change route-pattern 104 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1

Pattern Number: 104 Pattern Name:

| Grp No | FRL | NPA | Pfx Mrk | Hop Lmt | Toll List | No. Del | Inserted Dgts | DCS/ QSIG Intw | IXC  |
|--------|-----|-----|---------|---------|-----------|---------|---------------|----------------|------|
| 1:     | 13  | 0   |         | 6       |           | 3       |               | n              | user |
| 2:     | 14  | 0   |         | 6       |           | 3       |               | n              | user |
| 3:     |     |     |         |         |           |         |               | n              | user |
| 4:     |     |     |         |         |           |         |               | n              | user |
| 5:     |     |     |         |         |           |         |               | n              | user |
| 6:     |     |     |         |         |           |         |               | n              | user |

| BCC VALUE   | TSC         | CA-TSC  | ITC       | BCIE    | Service/Feature | BAND | No. Dgts | Numbering Format | LAR  |
|-------------|-------------|---------|-----------|---------|-----------------|------|----------|------------------|------|
| 0 1 2 3 4 W |             | Request |           |         |                 |      |          | Subaddress       |      |
| 1:          | y y y y y n | y       | as-needed | bothept |                 |      |          | lev0-pvt         | none |
| 2:          | y y y y y n | y       | as-needed | bothept |                 |      |          | lev0-pvt         | none |
| 3:          | y y y y y n | n       |           | rest    |                 |      |          |                  | none |
| 4:          | y y y y y n | n       |           | rest    |                 |      |          |                  | none |
| 5:          | y y y y y n | n       |           | rest    |                 |      |          |                  | none |
| 6:          | y y y y y n | n       |           | rest    |                 |      |          |                  | none |

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## PSTN DS1 Circuit Pack Configuration

Avaya Site Administration - [multivantage GED1]

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change ds1 a12 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1

**DS1 CIRCUIT PACK**

|                       |          |                               |        |
|-----------------------|----------|-------------------------------|--------|
| Location:             | 01A12    | Name:                         | E1 PRI |
| Bit Rate:             | 2.048    | Line Coding:                  | hdb3   |
| Signaling Mode:       | isdn-pri |                               |        |
| Connect:              | network  |                               |        |
| TN-C7 Long Timers?    | n        | Country Protocol:             | etsi   |
| Interworking Message: | PROGress | Protocol Version:             | a      |
| Interface Companding: | alaw     | CRC?                          | y      |
| Idle Code:            | 11111111 |                               |        |
|                       |          | DCP/Analog Bearer Capability: | 3.1kHz |
| Slip Detection?       | y        | Near-end CSU Type:            | other  |

Right-click in a field to see a list of valid entries or help text

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## PSTN Signaling Group

Avaya Site Administration - [multivantage GEDI]

File Edit View System Action Tools Window Help

change signaling-group 12 send {return} help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5

**SIGNALING GROUP**

Group Number: 12 Group Type: isdn-pri

Associated Signaling? ☐ Max number of NCA TSC: 5

Primary D-Channel: 01A1216 Max number of CA TSC: 23

Trunk Group for Channel Selection: 12 Trunk Group for NCA TSC: 12

Supplementary Service Protocol: a X-Mobility/Wireless Type: NONE

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## PSTN Trunk Configuration

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File Edit View System Action Tools Window Help

change trunk-group 12 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

**TRUNK GROUP**

Group Number: 12 Group Type: isdn CDR Reports: y  
Group Name: MU1.2 to PSTN on U6 COR: 1 TN: 1 TAC: 612  
Direction: two-way Outgoing Display? y Carrier Medium: PRI/BRI  
Dial Access? y Busy Threshold: 99 Night Service:  
Queue Length: 0  
Service Type: public-ntwrk Auth Code? n TestCall ITC: rest  
Far End Test Line No:  
TestCall BCC: 4

**TRUNK PARAMETERS**

Codeset to Send Display: 0 Codeset to Send National IEs: 7  
Max Message Size to Send: 260 Charge Advice: none  
Supplementary Service Protocol: c Digit Handling (in/out): enbloc/enbloc

Trunk Hunt: ascend QSIG Value-Added? n  
Digital Loss Group: 13  
Calling Number - Delete: Insert: Numbering Format:  
Bit Rate: 1200 Synchronization: async Duplex: full  
Disconnect Supervision - In? y Out? n  
Answer Supervision Timeout: 0

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Avaya Site Administration - [multivantage GED]

File Edit View System Action Tools Window Help

change trunk-group 12 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

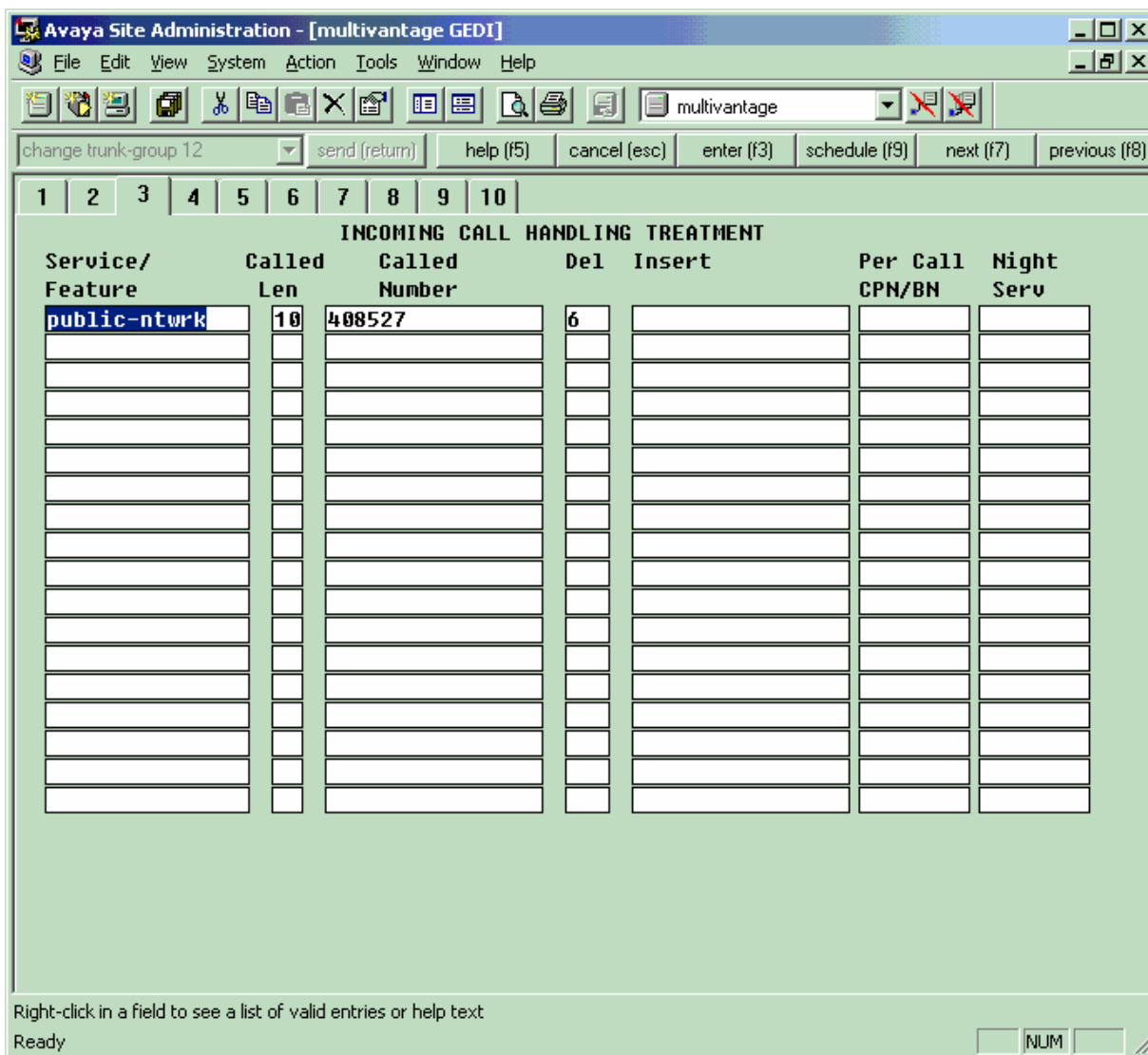
**TRUNK FEATURES**

ACA Assignment? ☐ Measured:  Wideband Support? ☐  
Maintenance Tests? ☐  
Data Restriction? ☐ NCA-TSC Trunk Member:   
Send Name: ☐ Send Calling Number: ☐  
Used for DCS? ☐  
Suppress # Outpulsing? ☐ Numbering Format:   
Outgoing Channel ID Encoding:  UUI IE Treatment:   
Replace Restricted Numbers? ☐  
Replace Unavailable Numbers? ☐  
Send Connected Number: ☐  
Send UUI IE? ☐  
Send UCID? ☐  
Send Codeset 6/7 LAI IE? ☐ Ds1 Echo Cancellation? ☐  
SBS? ☐ Network (Japan) Needs Connect Before Disconnect? ☐

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Avaya Site Administration - [multivantage GED1]

File Edit View System Action Tools Window Help

change trunk-group 12 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7 8 9 10

TRUNK GROUP

Administered Members (min/max): 1/15

GROUP MEMBER ASSIGNMENTS Total Administered Members: 15

|     | Port    | Code  | Sfx | Name | Night | Sig Grp |
|-----|---------|-------|-----|------|-------|---------|
| 1:  | 01A1201 | TN464 | F   |      |       | 12      |
| 2:  | 01A1202 | TN464 | F   |      |       | 12      |
| 3:  | 01A1203 | TN464 | F   |      |       | 12      |
| 4:  | 01A1204 | TN464 | F   |      |       | 12      |
| 5:  | 01A1205 | TN464 | F   |      |       | 12      |
| 6:  | 01A1206 | TN464 | F   |      |       | 12      |
| 7:  | 01A1207 | TN464 | F   |      |       | 12      |
| 8:  | 01A1208 | TN464 | F   |      |       | 12      |
| 9:  | 01A1209 | TN464 | F   |      |       | 12      |
| 10: | 01A1210 | TN464 | F   |      |       | 12      |
| 11: | 01A1211 | TN464 | F   |      |       | 12      |
| 12: | 01A1212 | TN464 | F   |      |       | 12      |
| 13: | 01A1213 | TN464 | F   |      |       | 12      |
| 14: | 01A1214 | TN464 | F   |      |       | 12      |
| 15: | 01A1215 | TN464 | F   |      |       | 12      |

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## PSTN Access Code (9)

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change feature-access-codes send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2 3 4 5 6 7

**FEATURE ACCESS CODE (FAC)**

|                                                  |                                |                                                |
|--------------------------------------------------|--------------------------------|------------------------------------------------|
| Abbreviated Dialing List1 Access Code:           | <input type="text"/>           |                                                |
| Abbreviated Dialing List2 Access Code:           | <input type="text"/>           |                                                |
| Abbreviated Dialing List3 Access Code:           | <input type="text"/>           |                                                |
| Abbreviated Dial - Prgm Group List Access Code:  | <input type="text"/>           |                                                |
| Announcement Access Code:                        | <input type="text"/>           |                                                |
| Answer Back Access Code:                         | <input type="text"/>           |                                                |
| Auto Alternate Routing (AAR) Access Code:        | <input type="text" value="8"/> |                                                |
| Auto Route Selection (ARS) - Access Code 1:      | <input type="text" value="9"/> | Access Code 2: <input type="text"/>            |
| Automatic Callback Activation:                   | <input type="text"/>           | Deactivation: <input type="text"/>             |
| Call Forwarding Activation Busy/DA: *66 All: *67 |                                | Deactivation: <input type="text" value="*69"/> |
| Call Park Access Code:                           | <input type="text"/>           |                                                |
| Call Pickup Access Code:                         | <input type="text"/>           |                                                |
| CAS Remote Hold/Answer Hold-Unhold Access Code:  | <input type="text"/>           |                                                |
| CDR Account Code Access Code:                    | <input type="text"/>           |                                                |
| Change COR Access Code:                          | <input type="text"/>           |                                                |
| Change Coverage Access Code:                     | <input type="text"/>           |                                                |
| Data Origination Access Code:                    | <input type="text"/>           |                                                |
| Data Privacy Access Code:                        | <input type="text"/>           |                                                |
| Directed Call Pickup Access Code:                | <input type="text"/>           |                                                |

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## PSTN Dialing Plan

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change ars analysis 165 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1 2

**ARS DIGIT ANALYSIS TABLE**  
Location: all Percent Full: 8

| Dialed String | Total Min | Total Max | Route Pattern | Call Type | Node Num | ANI Req'd |
|---------------|-----------|-----------|---------------|-----------|----------|-----------|
| 165           | 11        | 11        | 111           | fnpa      |          | n         |
| 166           | 11        | 11        | deny          | fnpa      |          | n         |
| 167           | 11        | 11        | deny          | fnpa      |          | n         |
| 168           | 11        | 11        | deny          | fnpa      |          | n         |
| 169           | 11        | 11        | deny          | fnpa      |          | n         |
| 170           | 11        | 11        | deny          | fnpa      |          | n         |
| 1700          | 11        | 11        | deny          | fnpa      |          | n         |
| 171           | 11        | 11        | deny          | fnpa      |          | n         |
| 172           | 11        | 11        | deny          | fnpa      |          | n         |
| 173           | 11        | 11        | deny          | fnpa      |          | n         |
| 174           | 11        | 11        | deny          | fnpa      |          | n         |
| 175           | 11        | 11        | deny          | fnpa      |          | n         |
| 176           | 11        | 11        | deny          | fnpa      |          | n         |
| 177           | 11        | 11        | deny          | fnpa      |          | n         |
| 178           | 11        | 11        | deny          | fnpa      |          | n         |

Right-click in a field to see a list of valid entries or help text

Ready NUM



**Avaya Site Administration - [multivantage GEDI]**

File Edit View System Action Tools Window Help

change route-pattern 111 send (return) help (f5) cancel (esc) enter (f3) schedule (f9) next (f7) previous (f8)

1

Pattern Number: 111 Pattern Name:

| Grp No | FRL | NPA | Pfx | Hop | Toll | No. | Inserted | DCS/ IXC |
|--------|-----|-----|-----|-----|------|-----|----------|----------|
|        |     |     | Mrk | Lmt | List | Del | Digits   | QSIG     |
| 1:     | 12  | 0   | 408 |     |      |     |          | n user   |
| 2:     |     |     |     |     |      |     |          | n user   |
| 3:     |     |     |     |     |      |     |          | n user   |
| 4:     |     |     |     |     |      |     |          | n user   |
| 5:     |     |     |     |     |      |     |          | n user   |
| 6:     |     |     |     |     |      |     |          | n user   |

| BCC | VALUE | TSC | CA-TSC | ITC | BCIE | Service/Feature | BAND | No.  | Numbering | LAR  |
|-----|-------|-----|--------|-----|------|-----------------|------|------|-----------|------|
| 0   | 1     | 2   | 3      | 4   | W    | Request         |      | Dgts | Format    |      |
| 1:  | y     | y   | y      | y   | n    | n               | rest |      | nat1-pub  | none |
| 2:  | y     | y   | y      | y   | n    | n               | rest |      |           | none |
| 3:  | y     | y   | y      | y   | n    | n               | rest |      |           | none |
| 4:  | y     | y   | y      | y   | n    | n               | rest |      |           | none |
| 5:  | y     | y   | y      | y   | n    | n               | rest |      |           | none |
| 6:  | y     | y   | y      | y   | n    | n               | rest |      |           | none |

Right-click in a field to see a list of valid entries or help text

Ready NUM

## Configuring Cisco CallManager



## 6608-E1 Gateway Configuration

Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address http://cm-kingon/CCMAdmin/gatewayconfig.asp?pkid={2E043967-780A-4425-8FEF-343CBAD17186}&type=2 Go Links

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

**Gateway Configuration** [Back to Find/List Gateways](#) [Dependency Records](#)

Product : Cisco Catalyst 6000 E1 VoIP Gateway  
Gateway : S0/DS1-0@SDA0001C9D8633E  
Device Protocol: Digital Access PRI  
Registration: Registered with Cisco CallManager 172.20.32.254  
IP Address: [172.20.32.103](#)

Status: Ready

**Device Information**

|                           |                                              |
|---------------------------|----------------------------------------------|
| MAC Address*              | <input type="text" value="0001C9D8633E"/>    |
| Description               | <input type="text" value="SDA0001C9D8633E"/> |
| Device Pool*              | <input type="text" value="Default"/>         |
| Network Locale            | <input type="text" value="United States"/>   |
| Media Resource Group List | <input type="text" value=" &lt; None &gt;"/> |
| Location                  | <input type="text" value=" &lt; None &gt;"/> |
| AAR Group                 | <input type="text" value=" &lt; None &gt;"/> |
| Load Information          | <input type="text"/>                         |

**Multilevel Precedence and Preemption (MLPP) Information**

|                              |                              |
|------------------------------|------------------------------|
| MLPP Domain (e.g., "0000FF") | <input type="text"/>         |
| MLPP Indication              | Not available on this device |
| MLPP Preemption              | Not available on this device |

**Interface Information**

|                          |                                                |
|--------------------------|------------------------------------------------|
| PRI Protocol Type*       | <input type="text" value="PRI ISO QSIG E1"/>   |
| Protocol Side*           | <input type="text" value="Network"/>           |
| Channel Selection Order* | <input type="text" value="Top Down"/>          |
| Channel IE Type*         | <input type="text" value="Continuous Number"/> |

Local intranet



Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address <http://cm-klinton/CCMAdmin/gatewayconfig.asp?pkid={2E043967-780A-4425-8FEF-343CBAD17186}&type=2> Go Links

PCM Type\* A-law

Delay for first restart (1/8 sec ticks) 32

Delay between restarts (1/8 sec ticks) 4

☒ Inhibit restarts at PRI initialization

☒ Enable status poll

**Call Routing Information**

**Inbound Calls**

Significant Digits\* All

Calling Search Space Incoming Trunk

AAR Calling Search Space < None >

Prefix DN

**Outbound Calls**

Calling Line ID Presentation\* Default

Calling Party Selection\* Originator

Called party IE number type unknown\* Cisco CallManager

Calling party IE number type unknown\* Cisco CallManager

Called Numbering Plan\* Cisco CallManager

Calling Numbering Plan\* Cisco CallManager

Number of digits to strip\* 0

Caller ID DN

SMDI Base Port\* 0

**PRI Protocol Type Specific Information**

☒ Display IE Delivery

☒ Redirecting Number IE Delivery - Outbound

☒ Redirecting Number IE Delivery - Inbound

☒ Send Extra Leading Character In DisplayIE\*\*\*

☐ Setup non-ISDN Progress Indicator IE Enable\*\*\*\*

Local intranet



Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print

Address <http://cm-klinton/CCMAdmin/gatewayconfig.asp?pkid={2E043967-780A-4425-8FEF-343CBAD17186}&type=2> Go Links >>

☐ MCDN Channel Number Extension Bit Set to Zero\*\*

☐ Send Calling Name In Facility IE

☐ Interface Identifier Present\*\*

Interface Identifier Value\*\*

Connected Line ID Presentation (QSIG Inbound Call)\*

Connected PBX Model

**Product Specific Configuration**

Clock Reference\*

Framing\*

Audio Signal Adjustment into IP Network\*

Audio Signal Adjustment from IP Network\*

Zero Suppression\*

Digit On Duration(50-500ms)\*

Interdigit Duration(50-500msec)\*

SNMP Community String

Disable SNMP Set operations\* ☐

Debug Port Enable\* ☒

Hold Tone Silence Duration\*

Port Used for Voice Calls\* ☒

Port Used for Modem Calls\* ☒

Port Used for Fax Calls\* ☒

**Fax and Modem Parameters**

Fax Relay Enable\* ☒

Fax Error Correction Mode Override\* ☒

Maximum Fax Rate\*

Fax Payload Size\*

Non Standard Facilities Country Code\*

Non Standard Facilities Number\*

Local intranet





Cisco CallManager 4.0 Administration - Gateway Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print

Address <http://cm-kingon/CCMAdmin/gatewayconfig.asp?pkid={2E043967-780A-4425-8FEF-343CBAD17186}&type=2> Go Links >>

Non Standard Facilities Vendor Code\*

Fax/Modem Packet Redundancy\* ☐

NSE Type\*

**Playout Delay Parameters**

Initial Playout Delay\*

Minimum Playout Delay\*

Maximum Playout Delay\*

**Echo Canceller Configuration**

Echo TailLength (ms)\*

Minimum ERL (db)\*

\* indicates required item  
\*\* applicable to DMS-100 protocol only  
\*\*\* applicable to DMS-100 protocol and DMS-250 protocol only  
\*\*\*\* may be required to force ringback from some PBXs

[Back to Find/List Gateways](#)

Local intranet



## Enbloc Route Pattern Configuration

Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address http://cm-klngon/CCMAdmin/routepatternconfig.asp?pkid={3F08903A-3126-4CE1-95DF-9E01A95B7DC4}&status=uc Go Links

**Route Pattern/Hunt Pilot: 6.XXXX**

Status: Update completed  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

**Pattern Definition**

Route Pattern/Hunt Pilot\* 6.XXXX

Partition <None>

Description

Numbering Plan\* North American Numbering Plan

Route Filter <None>

MLPP Precedence Default

Gateway or Route/Hunt List\* S0/DS1-0@SDA0001C9D8633E (Edit)

Route Option

☒ Route this pattern

☐ Block this pattern — Not Selected —

☒ Provide Outside Dial Tone ☐ Allow Overlap Sending ☐ Urgent Priority

**Calling Party Transformations**

☐ Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation Default

Calling Name Presentation Default

**Connected Party Transformations**

Connected Line ID Presentation Default

Connected Name Presentation Default

**Called Party Transformations**

Discard Digits PreDot

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Carrier Identification Code

Network Service Protocol — Not Selected —

Network Service Service Parameter Name Service Parameter Value

— Not Selected — < Not Exist >

Done Local intranet



## Overlap Sending Route Pattern Configuration

Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <http://cm-klngon/CCMAdmin/routepatternconfig.asp?pkid={E959BFF6-5645-4444-9E24-2768AFCAAD03}> Go Links

### Route Pattern/Hunt Pilot: 9.X

Status: Ready  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

#### Pattern Definition

Route Pattern/Hunt Pilot\* 9.X

Partition < None >

Description

Numbering Plan\* North American Numbering Plan

Route Filter < None >

MLPP Precedence Default

Gateway or Route/Hunt List\* S0/DS1-0@SDA0001C9D8633E (Edit)

Route Option

☒ Route this pattern

☐ Block this pattern — Not Selected —

☒ Provide Outside Dial Tone ☒ Allow Overlap Sending ☐ Urgent Priority

#### Calling Party Transformations

☐ Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls)

Calling Line ID Presentation Default

Calling Name Presentation Default

#### Connected Party Transformations

Connected Line ID Presentation Default

Connected Name Presentation Default

#### Called Party Transformations

Discard Digits PreDot

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

#### ISDN Network-Specific Facilities Information Element

Carrier Identification Code

Network Service Protocol — Not Selected —

Network Service Service Parameter Name Service Parameter Value

— Not Selected — < Not Exist >

Done Local intranet



## PSTN Route Pattern Configuration

**Cisco CallManager 4.0 Administration - Route Pattern/Hunt Pilot Configuration - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print

Address <http://cm-klinton/CCMAdmin/routepatternconfig.asp?pkid={A0E58AC2-80ED-4857-9D43-DCC43AA6EA56}> Go Links >>

**Route Pattern/Hunt Pilot: 91650XXXXXX**

Status: Ready  
Note: Any update to this Route Pattern or Hunt Pilot automatically resets the associated gateway or Route/Hunt List

Copy Update Delete

**Pattern Definition**

Route Pattern/Hunt Pilot\* 91650XXXXXX

Partition < None >

Description

Numbering Plan\* North American Numbering Plan

Route Filter < None >

MLPP Precedence Default

Gateway or Route/Hunt List\* S0/DS1-0@SDA0001C9D8633E (Edit)

Route Option  
☒ Route this pattern  
☐ Block this pattern — Not Selected —

☒ Provide Outside Dial Tone ☐ Allow Overlap Sending ☐ Urgent Priority

**Calling Party Transformations**

☐ Use Calling Party's External Phone Number Mask

Calling Party Transform Mask

Prefix Digits (Outgoing Calls) 408527

Calling Line ID Presentation Default

Calling Name Presentation Default

**Connected Party Transformations**

Connected Line ID Presentation Default

Connected Name Presentation Default

**Called Party Transformations**

Discard Digits < None >

Called Party Transform Mask

Prefix Digits (Outgoing Calls)

**ISDN Network-Specific Facilities Information Element**

Carrier Identification Code

Network Service Protocol — Not Selected —

| Network Service  | Service Parameter Name | Service Parameter Value |
|------------------|------------------------|-------------------------|
| — Not Selected — | < Not Exist >          |                         |

Done Local intranet



## 7960 IP phone Configuration

Cisco CallManager 4.0 Administration - Phone Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print

Address <http://cm-klinton/CCMAdmin/phoneconfig.asp?pkid={ED74929A-A8BB-4A58-8129-2E4358F511BB}> Go Links

# Phone Configuration

[Add a new phone](#)  
[Add/Update Speed Dials](#)  
[Subscribe/Unsubscribe Services](#)  
[Dependency Records](#)  
[Back to Find/List Phones](#)

**Directory Numbers**

**Base Phone**

- 7712 Line 1 - 4001 in Phones
- 7719 Line 2 - Add new DN

Phone: SEP003094C39863 (Auto 4001)  
Registration: Registered with Cisco CallManager 172.20.32.254  
IP Address: [172.20.32.110](#)  
Status: Ready

Copy Update Delete Reset Phone

### Phone Configuration (Model = Cisco 7960)

#### Device Information

|                           |                                       |
|---------------------------|---------------------------------------|
| MAC Address*              | 003094C39863                          |
| Description               | Auto 4001                             |
| Owner User ID             | <input type="text"/> (Select User ID) |
| Device Pool*              | Default (View details)                |
| Calling Search Space      | < None >                              |
| AAR Calling Search Space  | < None >                              |
| Media Resource Group List | < None >                              |
| User Hold Audio Source    | < None >                              |
| Network Hold Audio Source | < None >                              |
| Location                  | < None >                              |
| User Locale               | < None >                              |
| Network Locale            | < None >                              |
| Device Security Mode      | Use System Default                    |
| Built In Bridge           | Default                               |
| Privacy                   | Default                               |

#### Phone Button Template Information

|                        |                                  |
|------------------------|----------------------------------|
| Phone Button Template* | Standard 7960 (View button list) |
|------------------------|----------------------------------|

#### Softkey Template Information

|                  |          |
|------------------|----------|
| Softkey Template | < None > |
|------------------|----------|

#### Expansion Module Information

|          |          |
|----------|----------|
| Module 1 | < None > |
| Module 2 | < None > |

Done Local intranet



Cisco CallManager 4.0 Administration - Phone Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Address http://cm-kingon/CCMAdmin/phoneconfig.asp?pkid={ED74929A-A8BB-4A58-8129-2E4358F511BB} Go Links

Module 1 Load Name  (Module 1 selection required)

Module 2 Load Name  (Module 2 selection required)

**Cisco IP Phone - External Data Locations (leave blank to use default)**

Information

Directory

Messages

Services

Authentication Server

Proxy Server

Idle

Idle Timer (seconds)

**Extension Mobility (Device Profile) Information**

☐ Enable Extension Mobility Feature

Log Out Profile

Log In User ID

Log In Time

Log Out Time

**Multilevel Precedence and Preemption (MLPP) Information**

MLPP Domain  (e.g., "0000FF")

MLPP Indication

MLPP Preemption

**Product Specific Configuration**

Disable Speakerphone ☐

Disable Speakerphone and Headset ☐

Forwarding Delay\*

PC Port\*

Settings Access\*

Gratuitous ARP\*

PC Voice VLAN Access\*

Video Capabilities\*

Auto Line Select\*

Done Local intranet



Cisco CallManager 4.0 Administration - Directory Number Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print

Address http://cm-kingon/CCMAdmin/directorynumber.asp?NumPlanMapID={17A63DCE-8B3B-4403-A131-B02B19FC9CF4} Go Links

## Directory Number Configuration

[Configure Device \(SEP003094C39863\)](#)  
[Dependency Records](#)

**Associated With**  
SEP003094C39863  
7960 (Line 1)

**Directory Number: 4001 (Phones)**  
Status: Ready  
Note: Any update to this Directory Number automatically resets the associated devices

**Directory Number**  
Directory Number\* 4001  
Partition Phones

**Directory Number Settings**  
Voice Mail Profile <None> (Choose <None> to use default)  
Calling Search Space Phones  
AAR Group <None>  
User Hold Audio Source <None>  
Network Hold Audio Source <None>  
Auto Answer Auto Answer Off

**Call Forward and Pickup Settings**

|                         | Voice Mail Destination         | Calling Search Space        |
|-------------------------|--------------------------------|-----------------------------|
| Forward All             | <input type="checkbox"/>       | <input type="text"/> <None> |
| Forward Busy            | <input type="checkbox"/>       | <input type="text"/> <None> |
| Forward No Answer       | <input type="checkbox"/>       | <input type="text"/> <None> |
| No Answer Ring Duration | <input type="text"/> (seconds) |                             |
| Call Pickup Group       | <input type="text"/> <None>    |                             |

**MLPP Alternate Party Settings**  
Target (Destination)   
Calling Search Space <None>  
No Answer Ring Duration  (seconds)

**Line Settings for this Device**  
Display (Internal Caller ID) JOHN DOE  
Line Text Label   
External Phone Number Mask

Done Local intranet



Cisco CallManager 4.0 Administration - Directory Number Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <http://cm-klngon/CCMAdmin/directorynumber.asp?NumPlanMapID={17A63DCE-8B3B-4403-A131-B02B19FC9CF4}> Go Links »

Message Waiting Lamp Policy Use System Policy

Ring Setting (Phone Idle) Use System Default

Ring Setting (Phone Active)\*\* Use System Default

**Multiple Call / Call Waiting Settings**

Maximum Number of Calls\* 4 (1 - 200)

Busy Trigger\* 2 (<= Max. Calls)

**Forwarded Call Information Display**

☒ Caller Name ☒ Caller Number

☒ Redirected Number ☒ Dialed Number

\* indicates required item; changes to Line or Directory Number settings require restart.

\*\* Ring Setting (Phone Active) applies to this line when any line on the phone has a call in progress.

**Note:**  
If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong character set is selected. (English characters are included in all character sets.)

Character Set Western European (Latin 1)

Done Local intranet

## Configuring the Catalyst 6000 Switch

Router# **show version**

WS-C6006 Software, Version NmpSW: 7.6(2)

Copyright (c) 1995-2003 by Cisco Systems

NMP S/W compiled on Jul 16 2003, 23:01:27

System Bootstrap Version: 5.3(1)

System Boot Image File is 'slot0:cat6000-supk8.7-6-2.bin'

System Configuration register is 0x2

Hardware Version: 2.0 Model: WS-C6006 Serial #: TBA04511172

PS1 Module: WS-CAC-1300W Serial #: SON04501278





| Mod | Port | Model            | Serial #    | Versions                                                                                                                                                                                                                                                                                                                   |
|-----|------|------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | 2    | WS-X6K-SUP1A-2GE | SAD05010NBK | Hw : 7.0<br>Fw : 5.3 (1)<br>Fw1: 5.4 (2)<br>Sw : 7.6 (2)<br>Sw1: 7.6 (2)                                                                                                                                                                                                                                                   |
|     |      | WS-X6K-SUP1A-2GE | SAD05010NBK | Hw : 7.0<br>Sw :                                                                                                                                                                                                                                                                                                           |
| 3   | 48   | WS-X6348-RJ-45   | SAD04420N7B | Hw : 1.4<br>Fw : 5.4 (2)<br>Sw : 7.6 (2)                                                                                                                                                                                                                                                                                   |
|     |      | WS-F6K-VPWR      |             | Hw : 1.0<br>Sw : 1.0                                                                                                                                                                                                                                                                                                       |
| 5   | 8    | WS-SVC-NAM-2     | SAD065002TK | Hw : 1.0<br>Fw : 7.2 (1)<br>Fw1: 7.2 (1)<br>Sw : 3.2 (0.13)<br>Sw1: 7.6 (2)                                                                                                                                                                                                                                                |
| 6   | 8    | WS-X6608-E1      | SAD04380DW1 | Hw : 1.1<br>Fw : 5.4 (2)<br>Sw : 7.6 (2)<br>HP1: D00404000003; DSP1: D0054133 (4.1.<br>33)<br>HP2: (not online); DSP2: (not online)<br>HP3: (not online); DSP3: (not online)<br>HP4: D00403030020; DSP4: D0054130 (4.1.<br>30)<br>HP5: C00103010013; DSP5: C002E031 (3.3.<br>2)<br>HP6: C00103010013; DSP6: C002E031 (3.3. |



2)

HP7: C00103010013; DSP7: C002E031 (3.3.

2)

HP8: C00103010013; DSP8: C002E031 (3.3.

2)

|        | DRAM   |        |        | FLASH  |        |       | NVRAM |       |       |
|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| Module | Total  | Used   | Free   | Total  | Used   | Free  | Total | Used  | Free  |
| -----  | -----  | -----  | -----  | -----  | -----  | ----- | ----- | ----- | ----- |
| 1      | 65408K | 47433K | 17975K | 16384K | 16107K | 277K  | 512K  | 289K  | 223K  |

Uptime is 48 days, 9 hours, 54 minutes

Console> (enable)

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**Corporate Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

**European Headquarters**

Cisco Systems International  
BV  
Haarlerbergpark  
Haarlerbergweg 13-19  
1101 CH Amsterdam  
The Netherlands  
www-europe.cisco.com  
Tel: 31 0 20 357 1000  
Fax: 31 0 20 357 1100

**Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-7660  
Fax: 408 527-0883

**Asia Pacific Headquarters**

Cisco Systems, Inc.  
Capital Tower  
168 Robinson Road  
#22-01 to #29-01  
Singapore 068912  
www.cisco.com  
Tel: +65 317 7777  
Fax: +65 317 7799

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